AMENDMENT TO THE SPECIFICATION

Please enter the following amendments to the specification without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents as follows:

Please replace ¶ 52 as published with the following paragraph:

FIGS. 1A-1B, 2A-2E, 3A-3E, 4A-4D, 5A-5E, 6A-6E, 7A-7E through 8A-8E are schematic representations of microfluidics arrays and components for performing direct analyte detection assays using the Microsystems platforms of the invention.

Please replace ¶ 53 as published with the following paragraph:

FIGS. 9,9A-9F, 10A-E through 11A-11J are schematic representations of microfluidics arrays and components for performing separations of analyte from a fluid sample using the Microsystems platforms of the invention.

Please replace ¶ 54 as published with the following paragraph:

[0054] FIGS. 12A-12Q and 13A-E are schematic representations of microfluidics arrays and components for performing both direct analyte detection assays and analyte separations using the Microsystems platforms of the invention.

Please replace ¶ 88 as published with the following paragraph:

In an alternative embodiment shown in FIG. ~~15~~ 16, assay chamber 107 is comprised of a rectangular cavity in the surface of the platform having a depth of from about 0.2 mm to about 3 mm which is fluidly connected at its end proximal to the axis of rotation to capillary 112 and to air displacement channels 114 and ports 115. The second member of the assay chamber is a rectangular piece made from the same material as the platform or other material and designed to snap into the cavity forming liquid-tight seals around all edges. The snap-in piece has two faces, an A face and a B face. The A face consists of a fluid entry channel 112 connected to depression 113; depression 113 is further connected to air displacement channels 114. Depression 113 is from about 0.05 mm to about 5 mm deep and has a dimensions from about 0.5 mm by 4 mm, having a volumetric capacity of from about half to about twice the assay volume applied to the

disc. A pad or matrix 106 is attached to the A face of the snap-in piece, comprising a hydrophilic substance possessing a pore size of 0.2-2.0 μm, most preferably comprising a positively-charged nylon matrix having a pore size of about 0.8 μm. The upper limit on pore size of matrix 106 is chosen to inhibit or prevent blood cell entry into the matrix. The matrix is positioned in assay chamber 107 to be in fluidic contact with depression 113, more preferably covering depression 113, and most preferably having a surface area greater than the surface area of depression 113. The matrix is further impregnated with immobilized reagents which produce a detectable product proportional to the amount or concentration of glucose in a blood sample. Most preferably, the detectable product is a colored product, i.e., a product absorbing light at a detectable, most preferably a visible, wavelength.

Please replace ¶ 183 as published with the following paragraph:

An alternative embodiment of the glycated hemoglobin assay microsystem platform of the invention is shown in FIGS. 11A-J. Construction of the disk embodiments of the platforms of the invention were as described above. The blood application and metering components and their dimensions and relationships to one another are identical to those described above, comprising sample entry port chamber 901, metering capillary 902, overflow capillary 903, and overflow chamber 905. As in Example 1, each of the overflow and fluid chambers is also connected with air ports or air channels, such as 954, and capillary junction(s) 955, that permit venting of air displaced by fluid movement on the platform.

Please replace ¶ 198 as published with the following paragraph:

Boronate affinity matrix chamber 922 is further fluidly connected to capillary 932. Capillary 932 is from about 0.02 mm to about 2 mm deep and has a cross-sectional diameter of from about 0.02 mm to about 10 cm and is connected to sample collection cuvette array 934. Sample collection cuvette array 934 is from about 0.02 mm to about 3 cm deep and has a cross-sectional diameter of from about 0.02 mm to about 10 cm and is positioned from about 1.2 cm to about 14 cm from the axis of rotation. Sample collection cuvette array 934 is separated into a multiplicity of individual chambers, each separated from one another by septa that extend from the distal wall of the cuvettes to a position adjacent to the proximal wall of the cuvettes, so that a fluid passage 950 is maintained between each of the cuvettes. ~~The~~ A fluid passage ~~950~~ is formed

by the back (proximal wall) of the sample collection cuvette array 934 and the row of septa separating each of the sections of the sample collection cuvettes 934. Capillary 932 is fluidly connected to sample collection cuvette array 934 at a position adjacent to the proximal wall of the array and directed to the cuvette most proximal to the boronate affinity matrix chamber 922. Alternatively, the septa can be eliminated in sample collection cuvette array 934, wherein the sample cuvette is a single chamber.